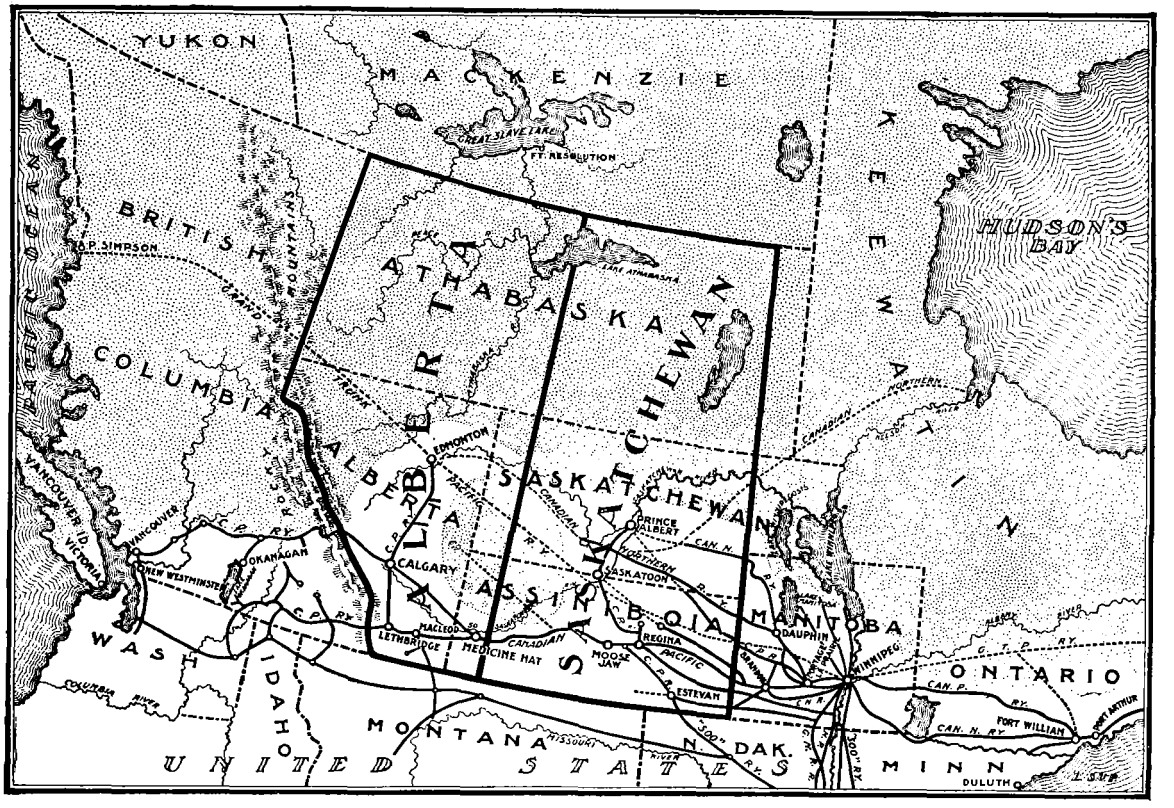

FIG. 1.—Map of the new Canadian Provinces. (By permission of Doubleday, Page & Co.)

NEW CANADIAN PROVINCES.

The Editor has obtained from Doubleday, Page & Co., publishers of The World's Work, permission to reprint the chart that appeared on page 6612 of the September number of that journal showing the recent changes in the boundaries of the Canadian Provinces. The heavy black lines show the boundaries of the two new provinces in western Canada which came into legal existence on the first of September. Alberta as a province comprises the former territorial district of Alberta, a small portion of the districts of Assiniboia and Saskatchewan and the western half of Athabaska. The new province of Saskatchewan comprises the greater portion of the old territories of Saskatchewan and Assiniboia, and the eastern half of the former territorial district of Athabaska. The boundaries of Manitoba, Ontario, British Columbia, Yukon, Mackenzie, and Keewatin do not appear to have been changed to any extent. The route of the proposed Canadian Northern Railway is shown on this map, fig. 1.

The new provinces Alberta and Saskatchewan, extending from 49° north latitude on the south to 60° on the north, embrace about 145 square degrees, and are generally now spoken of together as western Canada. During the past ten years they have been settled by over 500,000 immigrants, a large portion of whom come from the United States.

The land is a prairie soil especially adapted to the growth of wheat and to grazing on a large scale.

Regina is at present the capital of the new Saskatchewan, but other towns are competing for that privilege. Edmonton is at present the capital of the new Alberta, having wrested that honor from Calgary.

With regard to the meteorology of this region, Mr. B. C. Webber, Assistant Director of the Meteorological Service of Canada, writes that no new stations will be established in the immediate present, but such may be expected from time to time in the near future.

Of the stations whose data are published regularly in Table 5 of our MONTHLY WEATHER REVIEW Battleford, Prince Albert, Qu'Appelle, Swift Current, now belong to Saskatchewan. Banff, Calgary, Edmonton, and Medicine Hat now belong to Alberta.

THE GREEN RAY AT SUNSET.

The observation of the green ray seen just as the last glimpse of the sun disappears below the sea horizon was originally introduced into meteorology by Tyndall as an evidence of the special absorptive power of the aqueous vapor in the lowest layer of the atmosphere. A short memoir on this subject was lately published by W. H. Julius in the Archives of the Academy of Sciences of the Netherlands, and in reviewing this work in the Physikalische Zeitschrift, 1905, page 24, Dr. H. Schering says:

> After a short résumé of the phenomena as described by others, according to whom the so-called green ray appears as a greenish-blue column of light or flame that is seen on very clear days at the moment of the appearance at sunrise or disappearance at sunset of the upper edge of the sun behind the horizon, Julius describes his own observations near Sicily and Suez, in the Red Sea and the Indian Ocean. According to him, at sunset the yellowish orange segment assumes gradually a greenish tint, while the sun's limb is sharply defined and without any other color. The green also extends beyond the neighborhood of the orange segment, especially is it visible at the two ends of the segment at the instant when, by the junction of these ends and the disappearance of the sun, it assumes the form of a small flame. The duration of the phenomenon varies somewhat, but may be estimated at two seconds.
>
> Sohnke, Schülke, Ekama, and others explain the green ray as a consequence of the dispersion due to refraction. But the execution of a short computation gives for the breadth of such a green blue border produced by dispersion at the sun's limb, when it is in the horizon ten seconds of arc, and when it is ten degrees above the horizon, 1.6 seconds. That is to say, the phenomenon should not last more than two-thirds of a second of time at sunset behind the natural horizon in the Tropics, and only one-tenth of a second of time when the sun disappears behind a mountain at ten degrees above the horizon. Since this older explana-